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Arrhythmias

PREVALENCE OF ARRHYTHMIAS IN ED PATIENTS DISCHARGED USING A NOVEL AMBULATORY CARDIAC MONITOR

ACC Moderated Poster Contributions
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Session Title: Monitoring Arrhythmia Patients: Externally, via Implanted Devices and Wearable Defibrillators
Abstract Category: 18. Arrhythmias: Devices
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Background: Emergency Department (ED) patients who present with symptoms that may be due to arrhythmias (ARR), such as palpitations or syncope, are often discharged after a negative evaluation and then referred for outpatient cardiac monitoring. This approach is costly and ineffective due to poor follow-up, limited monitor recording time, and non-compliance. The prevalence of ARR in this patient population is unclear.

Methods: Between February and October 2011, a novel, single use long-term, continuous recording patch (Zio® Patch - iRhythm Technologies, Inc.) was initiated on a convenience sample of ED patients with suspected ARR upon discharge. Patients could wear the Zio® Patch for up to 14 days and press the integrated marker button when symptomatic. Devices were mailed back for analysis for any significant ARR defined as: ventricular tachycardia (VT), paroxysmal atrial fibrillation (PAF), supraventricular tachycardia (SVT), ≥3 sec pause, 2nd degree Mobitz II or 3rd degree AV Block, or symptomatic bradycardia. Descriptive statistics were used for analysis.

Results: 135 patients - 65 males (48%), mean age 48.6 (SD 21.3) - were enrolled and none were lost to follow-up. Palpitations (30%) or syncope (18%) were the most common indications. Average device wear time was 6.1 days (SD 3.1; max 14 days). 51 (38%) had ≥1 significant ARR and 7 were symptomatic at the time. Average time to first ARR episode was 1.8 days (SD 2.2; max 9.8 days) and first symptomatic ARR 2.1 days (SD 3.0; max 8.6 days). 44 SVT, 5 PAF, 3 VT, and 1 AV Block were detected. 81 symptomatic patients (60%) did not have any significant ARR.

Conclusions: The prevalence of ARR in discharged ED patients (38%) is significant. Many symptomatic patients (60%) are found to not have ARR. Our data suggests that a minimum of ~7 days of ambulatory cardiac monitoring is required to optimize detection in most ED patients. The Zio® Patch is a novel, single-use ambulatory cardiac monitor that can be successfully initiated upon ED discharge. Its ease-of-use results in improved patient compliance and accurate detection of symptomatic and asymptomatic rhythms over 14 days. Use of the Zio® Patch in the ED may facilitate ARR diagnosis and potentially save healthcare costs.